Weekly Report

23rd, Oct. - 5th, Nov. 2017

Done:

1. Reviewed html5, css and responsive design with Bootstrap on this useful website: https://www.freecodecamp.org/.
2. Learned D3 transitions, and some D3 V4 features.
3. Discussed with Kwan-Liu and Jia-Kai on something to do: (a) select data sources from online data available (historical data) (b) fuse the data. find problems during the fusion. (c) find some off-the-shelf models for prediction. (d) focus on UI and HCI, not on model.
4. Some thoughts on the UI & HCI:
   (a) let user choose the parameter
   (b) support tuning the vis results, feed the prediction model, update vis results
   (c) historical data can be viewed from two perspectives: using the former days pf data to predict future days & combine with previous years' data to predict
   (d) in the future, we may add some graph-related element into the system. Besides the social network used to predict, knowledge graph may also be useful (help make decisions)
5. Find some data online. Analyze the feasibility of fusion:
   (a) size of file., how to load the file
   (b) time span, time granularity
   (c) area granularity, how to deal with area data
   (d) can we see the evolution of one fire? (if it is a big fire)

To Do:

1. survey some models
2. discuss the uncertainties in the data (one phd student will be responsible for it.
3. Keep learning d3, and some backend techniques on freecodecamp

Paper reading

1. Environmental modeling and software *An insight into machine-learning algorithms to model human-caused wildfire occurrence*

本文提到了人在 wildfire 中的作用，其实很多火并不一定是自然导致的，人类活动也是一个原因. 除了烟头 小孩玩火 切割东西产生火花，还会有一些诸如电线因为风大甩动导致火花引起火灾. 本文讲的是利用一些自然数据\人类活动数据做的静态的预测.

2. *A data mining approach to predict forest fires using meteorological data* 本文也是静态数据，用到了气象数据，此外还用到了一些烟雾\雾霾数据(大概就是冒烟或者空气中某些物质浓度的指标)，这个数据在网上也能找到一些，可以借鉴一下这些资料. 文章中还提到一点就是火灾面积分布也是成一个 skew 的状态的，一般都是小火比较多，大火会少一点，我们后面也要界定下研究范围.

安排表

内容	DDL	Milestone
迭代式讨论研究主题		大方向已定，先做一些初步的东西去给对方看，再希望他们提供一些更好的数据给我们.
D3 学习以及框架	A.S.A.P	对于一些前端基础知识做了巩固；后面一方面要把 transition 一块弄好，另外就是 map 方面的也得学一下. 这边有一个网站提供自己上传数据绘制到地图的功能，名为 ARCGIS，高度可定制，可共享，很有意思.